

Appl. No. 09/802,787
Amdt. Dated October 27, 2006
Reply to Office Action of July 27, 2006

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method, comprising:
dynamically generating an object-oriented abstraction corresponding to a root bus
referencing a method that obtains and/or generates configuration and resource allocation
information for the root bus and a subordinate bus connected to the root bus; and
registering the method referenced in the object-oriented abstraction via a data structure
stored in a memory, the data structure including an identifier of the root bus and a pointer to the
root bus.
2. (original) The method of claim 1, wherein the object-oriented abstraction comprises
one of a C++ object or Java object.
3. (original) The method of claim 1, wherein the root bus comprises a PCI bus.
4. (previously presented) The method of claim 1, further comprising enumerating the
root bus and said subordinate bus through use of the method that is registered.
5. (previously presented) The method of claim 4, wherein the object-oriented abstraction
includes at least one variable for storing information, further comprising storing configuration
information derived during enumeration of the root bus into said at least one variable.
6. (previously presented) The method of claim 5, further comprising allocating resources
for the root bus, the subordinate bus, and a device attached to the root and subordinate busses;
and
storing information corresponding to resources that are allocated in said at least one
variable for storing information.

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7. (currently amended) The method of claim 1, wherein functions of the root bus are controlled, at least in part, by a chipset having a plug-in driver, further comprising interrogating the plug-in driver to identify said ~~plurality of methods~~ method.

8. (original) The method of claim 1, wherein functions of the root bus are controlled, at least in part, by a chipset having a plug-in driver, further comprising publishing the object-oriented abstraction via the plug-in driver.

9. (currently amended) A method ~~for defining resource configuration information in a system that includes a plurality of root busses~~, comprising:

identifying each of ~~the~~ a plurality of root ~~busses~~ buses;

defining an object oriented representation of each root bus comprising a set of components that includes references to a plurality of methods that obtain and/or generate configuration and resource allocation information for that root bus and at least a subordinate bus connected to the root bus;

assigning a bus identifier for the at least subordinate bus through use of an enumeration process that implements one or more of the methods referenced by the object oriented representation of the root bus,

wherein each of the foregoing operations is performed via execution of machine-executable instructions ~~by the system~~.

10. (original) The method of claim 9, wherein the object oriented representation includes a globally unique identifier (GUID) for each root bus.

11. (original) The method of claim 10, further comprising:

creating a handle; and

storing references corresponding to the GUIDs for each root bus in the handle.

12. (original) The method of claim 11, wherein the handle further includes indicia for each GUID identifying a location of the object oriented representation corresponding to the GUID.

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13. (original) The method of claim 12, wherein the indicia comprises a pointer to the memory address at which the object oriented representation is stored.

14. (previously presented) The method of claim 9, wherein each root bus and the at least subordinate bus connected to the root bus form a hierarchy, and wherein the enumeration process for each root bus comprises:

assigning bus identifiers as the at least subordinate bus is reached while moving downward through the hierarchy; and

calculating resource requirements for the at least subordinate bus while moving back up the hierarchy.

15. (previously presented) The method of claim 9, further comprising:

determining resource requirements for the at least subordinate bus;

allocating the resource requirements for the at least subordinate bus; and

setting resources for the at least subordinate bus.

16. (previously presented) The method of claim 15, wherein the at least subordinate bus has a peripheral device connected to it, and further wherein determining the resource requirements for the at least subordinate bus includes determining the resource requirements of a peripheral device attached to the at least subordinate bus.

17. (previously presented) The method of claim 15, further comprising:

allocating resources for the root bus based in part on the resources of the at least subordinate bus; and

setting the resources for the root bus.

18. (previously presented) The method of claim 9, further comprising:

evaluating devices in the hierarchy of the root bus to determine if the root bus produces a firmware device or an optional ROM that includes BIOS corresponding to a bootable device.

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19. (currently amended) An article of manufacture comprising a computer-readable medium having computer-executable instructions that when executed perform operations comprising:

generating an object-oriented abstraction corresponding to a root bus referencing a method that obtains and/or generates configuration and resource allocation information for the root bus and a subordinate bus connected to the root bus; and

registering the method referenced in the object-oriented abstraction via a data structure including an identifier of the root bus and a pointer to the root bus.

20. (original) The article of manufacture of claim 19, wherein the computer-executable instructions comprises one or more software modules including a root bus driver.

21. (previously presented) The article of manufacture of claim 19, wherein execution of the instructions further performs operations comprising assigning a bus identifier for the subordinate bus through use of an enumeration process that implements the method referenced by the object oriented abstraction of the root bus.

22. (previously presented) The article of manufacture of claim 21, wherein the root bus and the subordinate bus connected to the root bus form a hierarchy, and wherein the enumeration process for the root bus comprises:

assigning bus identifiers as the subordinate bus is reached while moving downward through the hierarchy; and

calculating resource requirements for the subordinate bus while moving back up the hierarchy.

23. (currently amended) The article of manufacture of claim 22, wherein execution of the instructions further performs the functions of:

determining resource requirements for the subordinate bus;

allocating the resource requirements for the subordinate bus; and

assigning the resources that are allocated to the root bus that is a parent of the subordinate bus.

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24. (previously presented) The article of manufacture of claim 19, wherein execution of the instructions further performs the functions of:

creating a handle; and

storing references corresponding to a globally unique identifier (GUID) for the object-oriented abstraction and a pointer to the object-oriented abstraction in the handle.